

“This sound is like a brighter color...”<sup>1</sup>

## W I R E D Lab – Long Wire Recordings

*As I went under the new telegraph wire, I heard it vibrating like a harp high overhead. It was as the sound of a far-off glorious life, a supernal life, which came down to us, and vibrated the lattice-work of this life of ours.*

Henry David Thoreau, 3<sup>rd</sup> September 1851<sup>2</sup>

### About the W I R E D Lab

The W I R E D Lab is an audio-based artist collective and interdisciplinary research group initiated by artist and curator Sarah Last. The project is consolidating and expanding upon the 30 years of research by Dr Alan Lamb into an instrument and device he calls *The Wires*, consisting of tightly strained spans of fencing wire that stretch several hundred metres across open landscape. Lamb is an artist, biomedical research scientist and General Practitioner. His investigations of *The Wires* have their foundations in site-specific installation, experimental audio and sound composition. Lamb's long-term engagement with *The Wires* has expanded into areas that are both relative to and beyond these sonic foundations.

A primary aim of The W I R E D Lab is to realise *The Wires* immense potential as a research tool in a range of inter-disciplinary practices. Conceived as an ongoing investigative project The W I R E D Lab concurrently engages with overt and invisible spatial specificities of site through the generation, documentation and application of sound. Commencing in April 2008 on an isolated farm 2000 feet above sea level in south-west NSW, Last, Lamb, and inaugural W I R E D Lab artists Dave Burraston, Garry Bradbury and Robin Fox constructed two twin sets of wires spanning approximately 450m and 350m, and started recording with 'peizo' pickups. A further twin span of approximately 350m using special high tensile wire has also been constructed. The establishment of The W I R E D Lab will ensure the longevity of *The Wires*, a unique Australian invention, as a permanent research site and experiment with *The Wires*' capacities in visual, computational science and medical realms.

### The Wires & Alan Lamb: historical overview

Lamb's formal investigations of *The Wires* started in 1976 with his discovery of a 1km stretch of abandoned telephone wires on a farm in the Great Southern region of Western Australia, the 12 telegraph poles and 6 unsheathed wires made a soft "...singing" noise. Lamb called these wires the *Faraway Wind Organ*, and learnt to record them and later devised compositions with these recordings. Typically, Lamb would spend days to weeks with the wires, sometimes gathering continuous 24-hour recordings that reflect cyclic changes of environmental factors. These recordings led to the sound designers for the *Star Wars* films to approach Lamb about how he used *The Wires* to create pinging laser beam like noises.

After completing his PhD in Physiology at the University of Edinburgh 1975, Lamb permanently returned to Australia to undertake a Senior Research Fellowship in Neurophysiology at the University of WA. During the 80 – 90's's Lamb also released several seminal compositions including *Primal Image* (Dorobo 1995) and *Night Passage* (Dorobo 1998), and at many festivals and specially commissioned installations he presented sculptural, improvised sound, dance and video collaborations with artists such as Sarah Hopkins, Beth Shelton and Joan Brassil. In 1985 his recordings were used by Peter Sculthorpe in the film *Burke and Wills*, directed by Greame Clifford. More recently Lamb's wire recordings were used in the Australian Films *Wolf Creek* (2005), *The Boys* (2002) and *Little Fish* (2005).

In the 90's Lamb retired from his academic career to move to regional WA and resumed his earlier career as a GP. Throughout this time he continued his work with *The Wires* through his own constructions in the desert, and collaborations with artists such as Kaffe Matthews and Julian Knowles. In 1997 he was commissioned by the Japanese Government to build a Wind Organ for the opening of the Spring8 Electron Synchrotron in Harima.

In 2004 Wagga Space Program (WSP) commissioned Lamb to build a Wire installation for the *unsound04* festival and *Mutable Landscapes* residency project at 'Pindari', a farm on the outskirts of Wagga Wagga (NSW). In 2006 Lamb returned to Wagga Wagga for the *unsound06* festival and *Locomotivus* project, which took place on a train as it moved through the landscape. During the festival the 8-carriage train pulled into a silo siding and tuned into a live CB radio transmission of the 'Pindari' wires,

which were played through a PA system installed on the train. This provided a delightfully symbolic gesture of the ability of do-it-yourself technology to traverse space and time, whilst challenging arts conventions of venue, creation and presentation. Lamb cites his collaborations with WSP as influential to reinventing his work with *The Wires*. It is these experiences and the consequent conversations that formed the creative dialogue which compelled Last and Lamb to establish The W I R E D Lab.

### **Æolian fascinations**

Named after Æolis the Greek god of the wind, according to Athanasius Kircher's *Musurgia universalis* (1650) and *Phonurgia Nova* (1673) æolian harps are thought to originate from ancient Greece. In the Romantic period æolian harps enjoyed a domestic re-emergence by being incorporated into buildings and castle grounds in England, Germany and Italy. Curiously, yet in keeping with the simultaneous flourishing of the arts and sciences around this time, æolian harps and their mystical audible qualities featured in literature of Romantic poets and physicists such as Hoffmann, Kerner, Gattoni, Shelley and Goethe<sup>3</sup>. In the late 1780's the Italian physicist Gattoni expanded the domestic scale of the romantic period instruments through his æolian 'Armonica Meteorologica naturale' experiments to build an instrument of long steel strings to research and 'sound' weather predictions. These experiments were later abandoned when a lightning strike destroyed the instrument and parts of the tower that it was attached to<sup>4</sup>.

Over the 16<sup>th</sup>-18<sup>th</sup> centuries consistent thematics surrounding æolian harps were their ability to reflect the natural world and perhaps be a means to understand natural phenomena. However, with the invention of the telegraph throughout the developed world in the mid 19<sup>th</sup> century, the wires of these instruments of communication were also identified to have æolian abilities. Spanning continents and oceans the telegraphs' æolian qualities were a physical and audible reflection of the consciousness and the communications of a developing age. This particularly fascinated Henry Thoreau and is well documented throughout his journals in the years following his simple living experiment where he lived in the woods with bare necessities. This time spawned his seminal texts '*Civil Disobedience*' (1849) and '*Walden*' (1854). Thoreau's journal writing referencing the 'telegraph harp' is illuminating in terms of his eventual determination that advancing industrialisation is not an absolute blight of the human condition but balance of experience and communication is perhaps the transcendent key to living.

*"To read that the ancients stretched a wire round the earth, attaching it to the trees of the forest, by which they sent messages by one named Electricity, father of Lightning and Magnetism, swifter than Mercury, the stern commands of war and news of peace, and that the winds caused this wire to vibrate so that it emitted harp-like and æolian music in all the lands through which it passed, as if to express the satisfaction of the gods in this invention. Yet this is fact, and we have attributed the invention to no god." 22<sup>nd</sup> September, 1851<sup>5</sup>.*

In Australia the telegraph and other expanses of wires, such as the rabbit proof and dingo fences, have been a major aspect of our postcolonial consciousness. Symbolic of antipodean modernity, these structures were also a gesture of the encroaching and attempted silencing enacted by colonization on the ancient Indigenous cultures of this land. These wires are part of our epic natural environs, first contact and exploration folklore, and like any cultural mythologies, can at times be recondite in nature. Accordingly, the audible vastness and dynamism of the wires is suitably infinite.

### **Nature's Microphone**

Lamb initially likened the *Faraway Wind Organ* tract of telegraph wires as an audible instrument principally functioning like an æolian harp. When these telegraph lines eventually decayed, Lamb commenced designing and building wire installations primarily for recording. Like the scale of the original telegraph wires, these purpose built wire installations were not of a domestic scale, they too had a deep connection with nature and spanned up to 300 metre expanses of rural landscape.

*The Wires* are multifaceted and the æolian vibration aspect is just one of a range interests. Over the years Lamb's work with *The Wires* has uncovered that it is not only wind that 'plays' this instrument, it seems that on their own accord *The Wires* often harmonically 'sing', vibrate or roar as they react to environmental factors such as barometric air pressure, temperature, insects and people. *The Wires* thereby create a unique and infinite instrumentation of itself and its surrounds - they are nature's microphone.

Through the technique of attaching stereo contact microphones to record

and listen to *The Wires*, its recordings expose an infinite and amplified universe of sound that sonically reflects things we cannot see. *The Wires* sonically reproduce environmental and human interactions with an enormous dynamic range of harmonics and frequencies. Whilst having traditional sonic qualities such as pitch, timbre, rhythm and key, the sounds produced are perhaps best described as a deep space atmosphere with earth hums and electro-pings.

Wind is a notoriously difficult phenomenon to record with microphones. A unique aspect of the wire system is its ability to convey the sound of the wind, The W I R E D Lab has had particular success with capturing the spatial traversals of wind. On a number of recordings made at W I R E D Lab, and on Lamb's earlier recordings, it is remarkable how well the sound of the wind is conveyed through the wires to the pickups. Its very similar to what one hears acoustically.

Rainfall is also difficult to record, and an occurrence previously undocumented in Lamb's earlier recordings. Water generally dampens the vibrations of the wire, with atmospheric moisture and morning dew usually stopping them from singing or vibrating. However, The W I R E D Lab discovered that in light or short patches of rain the vibrations may not be completely dampened, and successfully documented the natural phenomena of rainfall. The sound of the raindrops hitting *The Wires* can be heard at varying amplitude levels and audibly reflects the spatial expanse of the wires. On the occasions when a drop hits a piezo pickup a loud click is generated. The interaction of water with the earth cable crocodile clip can produce dramatic changes of bass/earth hum amplitude.

### **Creativity and Complexity**

The long wire instrument has potential significance for creative practice and complex systems to equal the Pythagorean Monochord's impact on the arts and sciences. Although designed for the purpose of creativity this essentially simple physical construction exhibits a wide range of natural dynamic behaviour. *The Wires* therefore have a rich potential for a central goal in complex systems science; to discover and understand the organisation and patterns of the natural world.

The long wire instrument has a strong connection to the scientific field of complex systems. An underlying principle of complex systems is that networks of simply interacting components may produce ordered, chaotic and

complex/self-organising behaviour. Lamb has described the behaviour of a long wire as:

*"... a family of interacting segments each with its own fundamental within the auditory range" creating "the emergence of complex functions resulting from neighbourhood interactions along the length of the wire"*<sup>6</sup>.

The long wire instrument is therefore an example of a real world complex system, which provides a unique opportunity for collaborative arts practice and scientific research. It is relatively simple to construct and made from extremely basic components. Each installation has a life span of approximately 15 years, and provides an immense variety of self organising dynamic behaviours originated by nature.

Sarah Last and David Burraston

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For more information about Alan Lamb and The W I R E D Lab go to:

<http://www.wiredlab.org/>

Join our community site at: <http://wiredlab.ning.com/>

The W I R E D Lab is grateful for the funding assistance of Australia Council for the Arts, NSW Arts and Regional Arts NSW.

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<sup>1</sup> Henry David Thoreau, edited by Bradford Torrey and Francis H. Allen, *The Journal of Henry David Thoreau, Volume 3, September 1851 to April 1852*, Peregrine Smith Books, 1984, 342.

<sup>2</sup> Henry David Thoreau, edited by Jeffrey S. Cramer, *I to myself: an annotated selection from the journal of Henry D. Thoreau*, Yale University Press, 2007, 170.

<sup>3</sup> Thomas L. Hankins and Robert J. Silverman, *Instruments and the imagination*, Princeton University Press, 1999, 87-112.

<sup>4</sup> Letter from Abate Cesare Gattoni to Don Pietro Moscati, 16.9.1785 with description of the 'Armonica Meteorologica natural', in *Opusculi Scelti Sulle Scienze e Sulle Arti* (eng. Selected Works on Science and The Arts), C. Amoretti and G.F. Soave, Vol 8, *Marelli* [et al.] Milan, Italy, 1785, 298-309. Retrieved 18 May 2009, from: <http://www.windmusik.com/html/gattoni.htm>

<sup>5</sup> Henry David Thoreau, edited by Bradford Torrey and Francis H. Allen, *The Journal of Henry David Thoreau, Volume 3, September 1851 to April 1852*, Peregrine Smith Books, 1984, 12.

<sup>6</sup> John Jenkins, *22 Contemporary Australian Composers*, New Music Articles (NMA) Publications Melbourne 1988, 113.